भारतीय मानक
Indian Standard

IS 9419 : 2017
(Reaffirmed 2021)

पुशर लेग — विशिष्टि

(दूसरा पुनरीक्षण)

Pusher Legs — Specification

(Second Revision)

ICS 73.100.30

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Pneumatic Tools Sectional Committee, PGD 08

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Pneumatic Tools Sectional Committee had been approved by the Production and General Engineering Division Council.

This standard was first published in 1980 and revised in 1993. This revision has been taken up to incorporate the developments in the field.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off values should be the same as that of the specified value in this standard.

Indian Standard
PUSHER LEGS — SPECIFICATION
(Second Revision)

1 SCOPE

This standard covers the requirements for pneumatic pusher legs used with light and medium weight rockdrills.

2 REFERENCES

The following standards contain provisions, which, through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below:

IS No.	*Title*
28 : 1985	Specification for phosphor-bronze ingots and castings (*fourth revision*)
554 : 1999	Pipe threads when pressure tight joints are made on the threads — Dimensions, tolerances and designation (*fourth revision*)
617 : 1994	Cast aluminium and its alloys — Ingots and castings for general engineering purposes — Specification (*third revision*)
733 : 1983	Wrought aluminium and aluminium alloy bars, rods and sections (for general engineering purposes) (*third revision*)
1570 (Part 3) : 1979	Schedule of wrought steels: Part 3 Carbon and carbon-manganese free cutting steels (*first revision*)
2062 : 2011	Hot rolled medium and high tensile structural steel — specification (*seventh revision*)
3601: 2006	Steel tubes for mechanical and general engineering purposes — Specification (*second revision*)
14329 : 1995	Malleable iron castings — Specification

3 TERMINOLOGY

For this purpose of this standard the following definition shall apply.

3.1 Pusher Leg — A pneumatic appliance having a cylinder and piston arrangement used to support the rock drill and to apply feed to the rockdrill during drilling (for tunnelling and drifting applications).

4 FEED LENGTH, NOMINAL BORE, MASS AND DIMENSIONS

Feed length, nominal bore, mass and dimensions of pusher legs shall be as given in Table 1.

Table 1 Feed Length, Nominal Bore, Mass and Dimensions

(*Clause* 4)

Sl No.	**Feed Length Nominal** mm	**Closed Length** *Min* mm	**Cylinder Bore Diameters Nominal** mm	**Mass Including Mounting Attachment** *Max* kg	**Mass of Suitable Rockdrill** *Max*	**Air Inlet Connection According to IS 554**
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	900	1 395	53	18.3	26	Rc l/2
			50	15.5	23	Rc 3/8
		1 440	63	20.0	26	Rc l/2
			70	22.0	26	Rc l/2
		1 820	50	19.0	23	Rc 3/8
			63	28.0	26	Rc l/2
		1 825	53	21.0	26	Rc l/2
ii)	1 300	1 850	57	21.3	26	Rc 3/8
		1 870	67	32.4	28	Rc l/2

5 MATERIAL

The material shall be of uniform quality and shall be free from imperfections and defects that might affect the serviceability of the finished product. Typical materials for main parts of pusher leg are indicated below for the guidance of the manufacturers and users:

Sl No.	*Name of Part*	*Relevant Specification*
i)	Cylinder	Cold drawn steel tubes of Grade 370 of IS 3601 or Grade 24345 WP of IS 733
ii)	Forked support	Grade E-250A of IS 2062 or Grade 10C8S10 of IS 1570 (Part 3)
iii)	Spike (Stud)	Grade 10C8S10 of IS 1570 (Part 3) or IS 14329
iv)	Piston rod	Grade E-250A of IS 2062
v)	Handle	Grade BM 350 of IS 14329 or Grade 4600A of IS 617
vi)	Bushings/guide	Grade 2 of IS 28

6 GENERAL REQUIREMENTS

6.1 Air inlet connection shall have pipe threads conforming to IS 554.

6.2 Control Valve

A control valve having a convenient hand wheel, knob and grip shall be provided to adjust the feed pressure. A push button shall also be provided to release the air.

6.3 A carrying handle shall be provided at the middle of the pusher leg.

6.4 Proper mounting attachment for the rockdrill shall be supplied with the pusher leg. The mounts shall be of screwed Mount A and Mount B or clamped Mount C by means of bayonet coupling, as shown in Figs. 1, 2 and 3, respectively.

6.5 The pusher leg shall be able to work effectively at a nominal air pressure of 6 ± 0.5 bar.

7 TEST

7.1 Air shall be allowed in the pusher leg at specified working pressure. The pusher leg shall then be checked for leakages, etc, and there shall be no leakages.

7.2 Test Report

If required by the customer, the manufacturer shall supply a test report.

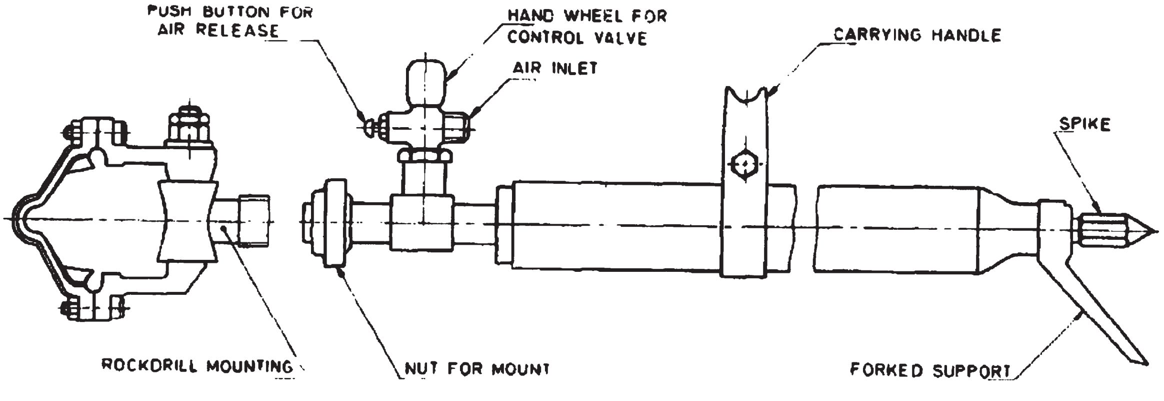

FIG. 1 MOUNT A

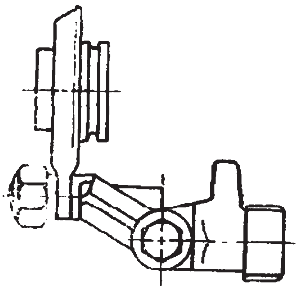

FIG. 2 MOUNT B

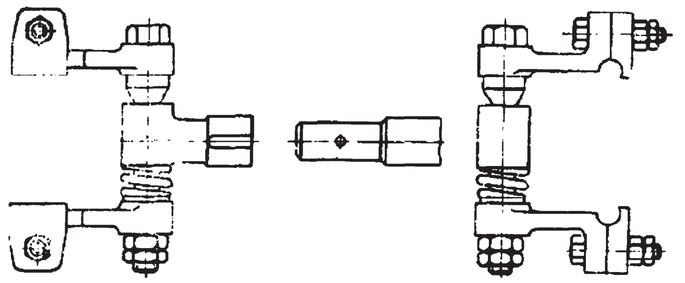

FIG. 3 MOUNT C

8 DESIGNATION

A pusher leg having a feed length of 900 mm, cylinder bore of 63 mm and conforming to this standard, shall be designated as:

Pusher Leg IS 9419 — 900 × 63

9 MARKING

9.1 Each pusher leg shall be marked with the following:

a) Designation;
b) Maximum working pressure, in MPa;
c) Serial number; and
d) Manufacturer's name or trade-mark.

9.2 As sufficient place for a data plate to be rivetted is not available on the pusher leg, the data may be on a sticker attached to it.

9.3 BIS Certification Marking

The end mills may also be marked with the Standard Mark.

9.3.1 The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standards

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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